

APP'S PCT/JP99/05787

L1 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS  
 AN 2000:278028 HCAPLUS  
 DN 132:309402  
 TI Flame-retardant epoxy resin encapsulation compositions and semiconductor devices made using the same  
 IN Kiuchi, Yukihiro; Iji, Masatoshi; Terajima, Katsushi; Katayama, Isao; Matsui, Yasuo; Oota, Ken  
 PA Nec Corp., Japan; Sumitomo Bakelite Co. Ltd.  
 SO PCT Int. Appl., 40 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 IC ICM C08G059-62  
 ICS C08L063-00; C08K003-00; H01L023-29  
 CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000023494	A1	20000427	WO 1999-JP5787	19991020
	W: KR, SG, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 2000129092	A2	20000509	JP 1998-299606	19981021
	EP 1142923	A1	20011010	EP 1999-949323	19991020 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI	JP 1998-299606	A	19981021		
	WO 1999-JP5787	W	19991020		<--
AB	The compns. comprise an epoxy resin (A), a phenolic resin (B), an inorg. filler (C), and a curing accelerator (D) and give cured products with flexural modulus (E; in kg/mm <sup>2</sup> ) at 240.degree. provided that 0.015W+4.1.ltoreq.E.ltoreq.0.27W+21.8 when 30.ltoreq.W<60 (W = the content of the filler C in %) and 0.30W-13.ltoreq.E.ltoreq.3.7W-184 when 60.ltoreq.W.ltoreq.95. The cured compns. form foamed layers upon pyrolysis and firing to thereby have good flame retardancy. Thus, kneading a compn. comprising 4,4'-biphenyl diglycidyl ether/3,3',5,5'-tetramethylbiphenyl diglycidyl ether mixed resin 16.58, a phenol-biphenylaralkyl resin 20.23, fused crushed silica 60.0, carnauba wax 0.51, triphenylphosphine 0.40, a silane coupler 1.57 and carbon black 0.75% at 100.degree. for .apprx.5 min, cooling, crushing, pelletizing, transfer molding and post curing at 175.degree. for 4 h gave test pieces with 240.degree.-flexural modulus 28.0 kg/mm <sup>2</sup> and UL94 flammability rating V-0.				
ST	fire resistance electronic packaging epoxy resin compn; encapsulation electronic epoxy phenolic resin compn; silica filler epoxy phenolic resin electronic packaging				
IT	Epoxy resins, uses RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (OH-contg. polybenzyl-based; flame-retardant epoxy resin encapsulation compns. and semiconductor devices made using same)				
IT	Electronic packaging materials Semiconductor devices (flame-retardant epoxy resin encapsulation compns. and semiconductor devices made using same)				
IT	Polybenzyls RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)				

(hydroxy-contg., epoxidized; flame-retardant epoxy resin encapsulation compns. and semiconductor devices made using same)

IT 178965-58-7D, glycidyl ethers 192333-07-6D, glycidyl ethers  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(base resins; flame-retardant epoxy resin encapsulation compns. and semiconductor devices made using same)

IT 2461-46-3, 4,4'-Biphenyl diglycidyl ether 27043-37-4 85954-11-6,  
3,3',5,5'-Tetramethylbiphenol diglycidyl ether  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(base resins; flame-retardant epoxy resin encapsulation compns. and semiconductor devices made using same)

IT 603-35-0, Triphenylphosphine, uses  
RL: CAT (Catalyst use); USES (Uses)  
(curing accelerator; flame-retardant epoxy resin encapsulation compns. and semiconductor devices made using same)

IT 178965-58-7 192333-07-6  
RL: MOA (Modifier or additive use); USES (Uses)  
(curing agent; flame-retardant epoxy resin encapsulation compns. and semiconductor devices made using same)

IT 7631-86-9, Silica, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(fillers; flame-retardant epoxy resin encapsulation compns. and semiconductor devices made using same)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Sumitomo Bakelite Company Limited; JP 07238141 A 1995 HCPLUS  
(2) Toshiba Chemical Corporation; JP 08245754 A 1996 HCPLUS  
(3) Yuka Shell Epoxy K K; JP 08253551 A 1996 HCPLUS

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Page 1

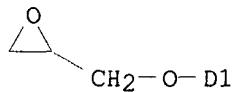
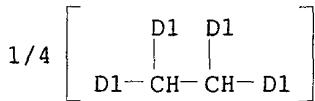
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1 2461-46-3/BI  
(2461-46-3/RN)  
1 27043-37-4/BI  
(27043-37-4/RN)  
1 603-35-0/BI  
(603-35-0/RN)  
1 7631-86-9/BI  
(7631-86-9/RN)  
1 85954-11-6/BI  
(85954-11-6/RN)  
L2 7 (178965-58-7/BI OR 192333-07-6/BI OR 2461-46-3/BI OR 27043-37-4/  
BI OR 603-35-0/BI OR 7631-86-9/BI OR 85954-11-6/BI)

=> d scan

L2 7 ANSWERS REGISTRY COPYRIGHT 2003 ACS  
IN Oxirane, 2,2',2'',2'''-[1,2-ethanediylidenetetrakis(phenyleneoxymethylene)  
]tetraakis- (9CI)  
MF C38 H38 O8  
CI IDS, COM



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):6

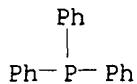
L2 7 ANSWERS REGISTRY COPYRIGHT 2003 ACS  
IN Poly[(hydroxyphenylene)methylene-1,4-phenylenemethylene] (9CI)  
MF (C14 H12 O)n  
CI IDS, PMS, COM, MAN

\*\*RELATED POLYMERS AVAILABLE WITH POLYLINK\*\*

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

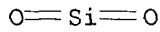
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L2 7 ANSWERS REGISTRY COPYRIGHT 2003 ACS  
IN Phosphine, triphenyl- (7CI, 8CI, 9CI)  
MF C18 H15 P  
CI COM



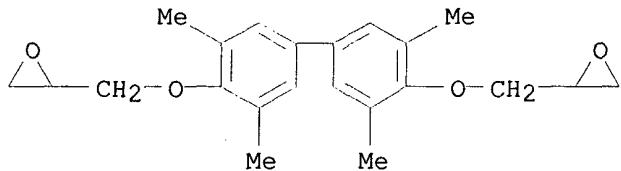
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L2 7 ANSWERS REGISTRY COPYRIGHT 2003 ACS  
IN Silica (6CI, 7CI, 8CI, 9CI)  
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT  
MF O2 Si  
CI COM



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L2 7 ANSWERS REGISTRY COPYRIGHT 2003 ACS  
IN Oxirane, 2,2'-(3,3',5,5'-tetramethyl[1,1'-biphenyl]-4,4'-diyl)bis(oxymethylene)bis- (9CI)  
MF C22 H26 O4  
CI COM



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L2 7 ANSWERS REGISTRY COPYRIGHT 2003 ACS  
IN Poly[[1,1'-biphenyl]-4,4'-diylmethylene(hydroxyphenylene)methylene] (9CI)  
MF (C20 H16 O)n  
CI IDS, PMS, MAN

\*\*RELATED POLYMERS AVAILABLE WITH POLYLINK\*\*

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L2 7 ANSWERS REGISTRY COPYRIGHT 2003 ACS  
IN Oxirane, 2,2'-[ [1,1'-biphenyl]-4,4'-diylbis(oxymethylene)]bis- (9CI)  
MF C18 H18 O4  
CI COM



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

ALL ANSWERS HAVE BEEN SCANNED

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